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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,955

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Paul Berg

Q207-US1

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7590
M. Elizabeth Bush
Quallion LLC
P.O. Box 923127
Sylmar, CA 91392-3127

05/15/2008

EXAMINER

WILLS, MONIQUE M

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

05/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/820,955	Applicant(s) BERG ET AL.	
	Examiner Monique M. Wills	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

This Office Action is responsive to the Amendment filed February 4, 2008.

All pending rejections have been applied on new grounds as follows:

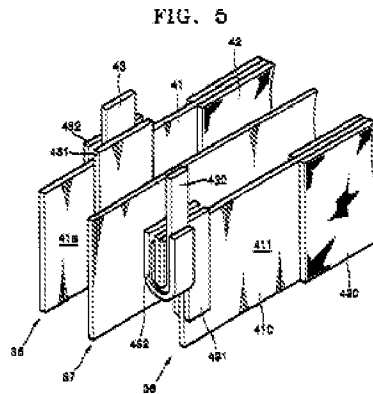
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

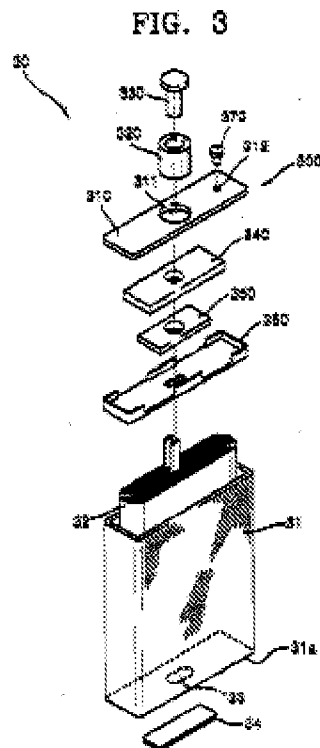
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 5, 11 & 12, 13 rejected under 35 U.S.C. 103(a) as being unpatentable
Kim et al. U.S. Pub. 2004/0161662.

With respect to claims 1 & 11, Kim teaches an energy storage device comprising: a casing (1) having an opening; an electrode assembly (32) disposed within the case, wherein the assembly includes a first polarity electrode mechanically connected to a first electrode tab, and a second polarity electrode member electrically and mechanically connected to a second electrode tab. See Figure 5.



Further concerning claims 1, 11 & 13, the cover (310) is disposed to cover the opening of the case, wherein the cover defines a hole; and a terminal structure (380) attached to the cover, including: a gasket (320) made of insulating material and fittingly dispose within the hole, and a fastening device (330) with a shaft passing through the gasket and the hole in the insulator member, wherein the fastening device applies pressure in the axial direction of the hole in the cover to press the gasket, the cover and electrode tab, the electrode insulator and second tab against each other to form a seal, and the fastening device is electrically insulated from the cover. See Figure 3.



With respect to claims 2 & 12, the case is electrically connected to the first electrode member to form a terminal and the fastening device is electrically connected to the second electrode member and forms another terminal of the energy storage device. See paragraph 42. With respect to claim 5, the hole has a counter bore. See Figure 3.

Kim does not expressly disclose that the insulating member defines a hole (claim 1), pressing the electrode tabs against each other to form a seal (claims 1 & 11), or one electrode member having higher potential than the member of opposite polarity (claims 3 & 4). The reference does not expressly disclose that the fastening device applies pressure in an axial direction of the hole in the cover to press the first electrode tab and second electrode tab against each other.

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However, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ a hole in the insulating member in order to uniformly charge electrolyte into the battery.

With respect to pressing the electrode tables against each other to form a seal, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to seal the electrode tabs to further obviate leakage of the electrolyte from the electrochemical cell.

With respect to the electrode member having a higher potential than the member of opposite polarity, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the unbalanced potential to improve battery life of the electrochemical cell.

With respect to the fastening device applying pressure in an axial direction of the hole in the cover to press the first electrode tab and second tab against each other, it would have been obvious for the fastening device of Kim to apply pressure to the electrode tabs in order further improve structural integrity in the top of the cell (claims 1 & 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8 & 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable Kim et al. U.S. Pub. 2004/0161662 in view of Shelekhin et al. U.S. Patent 6,926,996.

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Kim teaches an energy storage device as described in the rejection recited hereinabove.

However, Kim does not teach a washer disposed below the electrode tab defining a hole correspond to the hole in the cover (claims 6, 14), that is electrically conductive (claims 7, 15) or connected to the fastening device (claims 8, 16).

Shelekhin teaches that it is conventional to employ electrically conductive washers in battery covers of electrochemical cells. See Figure 3, member 344.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the washer of Shelekhin, in the battery cover of Kim in order securely fasten the cover of the device and prevent spilling the battery constituents (claims 7,15, 8 & 16).

With respect to the disposing the washer below the electrode tab defining a hole, corresponding to the hole in the cover, it would have been obvious to employ the washer in such a manner in order to secure the electrode tabs to the cover to improve the electrical connection between the cover and the tab. The skilled artisan recognizes that the instant connection improves electrical output to external loads.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

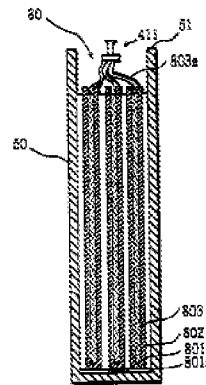
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagase et al. U.S. Pat. 6,579,640.

With respect to claims 17, 21 & 22, Nagase teaches an energy storage device terminal structure comprising a rivet (411) mechanically coupling multiple positive electrodes. See Figure 2. The energy storage device has a cover (Fig. 1), case (50). With respect to claims 21, 25 & 26, the energy storage device also teaches a terminal ring (413). See Figure 4.

Fig. 2



With respect to claim 23, the rivet is positive and the case is negative (col. 4, lines 40-60).

Nagase does not expressly disclose: the rivet connection electrodes of opposing polarity (claims 17, 18 & 22); electrode member having higher potential than the member of opposite polarity (claim 19 & 20) or a negative rivet and positive casing (claim 24). The reference does not expressly disclose coupling first and second polarity electrodes (claims 17 & 22).

However, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the rivet connection electrodes of opposing

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polarity, in order to localize the positive and negative electrode terminals for easy accessibility to external loads (claims 17, 18 & 22).

With respect to the electrode member having a higher potential than the member of opposite polarity, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the unbalanced potential to improve battery life of the electrochemical cell (claims 19 & 20).

With respect to a positive terminal casing (claim 24), it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the positive casing terminal, since such a modification would require a rearrangement of parts. It has been held that a rearrangement of parts of a device involves only routine skill in the art. In re Japikse, 86, USPQ 70.

With respect to coupling first and second electrodes of opposite polarity, it would have been obvious to couple the electrodes in order to facilitate discharging of the cell from one location. The skilled artisan recognizes that gaskets or other insulating devices must be used in order to obviate short circuiting when coupling the electrodes.

Response to Arguments

Applicant's arguments filed February 4, 2008 have been fully considered and are persuasive. The rejections have been reapplied on new grounds.

Conclusion

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.


If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Monique M Wills/
Examiner, Art Unit 1795

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795

<i>Application Number</i> 	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/820,955	BERG ET AL.	
	Examiner	Art Unit	
	Monique M. Wills	1795	